Настройка SMTP-сервера Postfix

Лабораторная работа №8

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Цель работы

Приобретение практических навыков по установке и конфигурированию SMTP-сервера Postfix.

Ход выполнения

Рис. 1: Установка Postfix и настройка firewall

```
virtual_recipient_limit = $default_recipient_limit
virtual_recipient_refill_delay = $default_recipient_refill_delay
virtual_recipient_refill_limit = $default_recipient_refill_limit
virtual_transport = virtual
virtual_transport_rate_delay = $default_transport_rate_delay
virtual_uid_maps =
[root@server.dgavdadaev.net ~]# postconf myorigin
myorigin = $myhostname
[root@server.dgavdadaev.net ~]# postconf mydomain
mydomain = dgavdadaev.net
[root@server.dgavdadaev.net ~]# postconf -e 'myorigin = $mydomain'
[root@server.dgavdadaev.net ~]# postconf myorigin
myorigin = $mydomain
[root@server.dgavdadaev.net ~]# postfix check
[root@server.dgavdadaev.net ~]# systemctl reload postfix.service
[root@server.dgavdadaev.net ~]#
```

Рис. 2: Изменение параметров myorigin и mydomain

```
smtb_directory = /usr/ttbd/postfix
smtp_tls_CAfile = /etc/pki/tls/certs/ca-bundle.crt
smtp_tls_CApath = /etc/pki/tls/certs
smtp_tls_security_level = may
smtpd_tls_cert_file = /etc/pki/tls/certs/postfix.pem
smtpd_tls_key_file = /etc/pki/tls/private/postfix.key
smtpd_tls_security_level = may
unknown_local_recipient_reject_code = 550
[root@server.dgavdadaev.net ~]#
[root@server.dgavdadaev.net ~]# postconf -e 'mydomain = dgavdadaev.net'
[root@server.dgavdadaev.net ~]# postconf inet_protocols
inet_protocols = all
[root@server.dgavdadaev.net ~]# postconf -e 'inet_protocols = ipv4'
[root@server.dgavdadaev.net ~]# postfix check
[root@server.dgavdadaev.net ~]# systemctl reload postfix.service
[root@server.dgavdadaev.net ~]# █
```

Рис. 3: Изменение параметров myorigin и mydomain

```
[root@server.dgavdadaev.net ~]# tail -f /var/log/maillog
Nov 30 10:29:05 server postfix/postfix-script[13316]: refreshing the Postfix mail system
Nov 30 10:29:05 server postfix/master[12470]: reload -- version 3.8.5, configuration /etc/postfix
Nov 30 10:29:05 server postfix/master[12470]: warning: ignoring inet_protocols parameter value change
Nov 30 10:29:05 server postfix/master[12470]: warning: old value: "all", new value: "ipv4"
Nov 30 10:29:05 server postfix/master[12470]: warning: to change inet_protocols, stop and start Postfix
Nov 30 10:30:46 server postfix/pickup[13323]: 0F31520A3C7B: uid=1001 from=<dgavdadaev>
Nov 30 10:30:46 server postfix/cleanup[13579]: 0F31520A3C7B: message-id=<20251130103046.0F31520A3C7B@server.dgavdadaev.net>
Nov 30 10:30:46 server postfix/qmgr[13324]: 0F31520A3C7B: from=<dgavdadaev@dgavdadaev.net>, size=346, nrcpt=1 (queue active)
Nov 30 10:30:46 server postfix/local[13582]: 0F31520A3C7B: to=<dgavdadaev@server.dgavdadaev.net>, relay=local, delay=0.01, delays=0.01/0/
0/0, dsn=2.0.0, status=sent (delivered to mailbox)
Nov 30 10:30:46 server postfix/qmgr[13324]: 0F31520A3C7B: removed
```

Рис. 4: Мониторинг лога и отправка локального письма

```
[dgavdadaev@server.dgavdadaev.net ~]$ echo .| mail -s test1 dgavdadaev@server.dgavdadaev.net
[dgavdadaev@server.dgavdadaev.net ~]$
You have new mail in /var/spool/mail/dgavdadaev
[dgavdadaev@server.dgavdadaev.net ~]$ cat /var/spool/mail/dgavdadaev
From dgavdadaev@dgavdadaev.net  Sun Nov 30 10:30:46 2025
Return-Path: <dgavdadaev@dgavdadaev.net>
X-Original-To: dgavdadaev@server.dgavdadaev.net
Delivered-To: dgavdadaev@server.dgavdadaev.net
Received: by server.dgavdadaev.net (Postfix, from userid 1001)
        id 0F31520A3C7B; Sun, 30 Nov 2025 10:30:46 +0000 (UTC)
Date: Sun, 30 Nov 2025 10:30:46 +0000
To: dgavdadaev@server.dgavdadaev.net
Subject: test1
User-Agent: s-nail v14.9.24
Message-Id: <20251130103046.0F31520A3C7B@server.dgavdadaev.net>
From: dgavdadaev@dgavdadaev.net


.


[dgavdadaev@server.dgavdadaev.net ~]$
```

Рис. 5: Мониторинг лога и отправка локального письма

Рис. 6: Установка Postfix и настройка IPv4 на клиенте

```
[root@server.dgavdadaev.net ~]#
[root@server.dgavdadaev.net ~]# postconf -e 'inet_interfaces = all'
[root@server.dgavdadaev.net ~]# postconf -e 'mynetworks = 127.0.0.0/8, 192.168.0.0/16'
[root@server.dgavdadaev.net ~]# postfix check
[root@server.dgavdadaev.net ~]# systemctl reload postfix.service
[root@server.dgavdadaev.net ~]# systemctl stop postfix.service
[root@server.dgavdadaev.net ~]# systemctl start postfix.service
[root@server.dgavdadaev.net ~]#
```

Рис. 7: Настройка inet_interfaces и mynetworks

```
Nov 30 10:36:39 server postfix/smtpd[14731]: warning: run-time library vs. compile-time header version mismatch: OpenSSL 3.5.0 may not be
 compatible with OpenSSL 3.2.0
Nov 30 10:36:39 server postfix/smtpd[14731]: connect from client.dgavdadaev.net[192.168.1.30]
Nov 30 10:36:39 server postfix/smtpd[14731]: 9D11F20A3C63: client=client.dgavdadaev.net[192.168.1.30]
Nov 30 10:36:39 server postfix/cleanup[14735]: 9D11F20A3C63: message-id=<20251130103639.937494130AC2@client.dgavdadaev.net>
Nov 30 10:36:39 server postfix/smtpd[14731]: disconnect from client.dgavdadaev.net[192.168.1.30] ehlo=2 starttls=1 mail=1 rcpt=1 data=1 q
uit=1 commands=7
Nov 30 10:36:39 server postfix/qmgr[14641]: 9D11F20A3C63: from=<dgavdadaev@client.dgavdadaev.net>, size=575, nrcpt=1 (queue active)
Nov 30 10:36:39 server postfix/local[14736]: 9D11F20A3C63: to=<dgavdadaev@server.dgavdadaev.net>, relay=local, delay=0.01, delays=0/0/0/0
, dsn=2.0.0, status=sent (delivered to mailbox)
Nov 30 10:36:39 server postfix/qmgr[14641]: 9D11F20A3C63: removed
```

Рис. 8: Успешная доставка письма после настройки mynetworks

```
From dgavdadaev@client.dgavdadaev.net  Sun Nov 30 10:36:39 2025
Return-Path: <dgavdadaev@client.dgavdadaev.net>
X-Original-To: dgavdadaev@server.dgavdadaev.net
Delivered-To: dgavdadaev@server.dgavdadaev.net
Received: from client.dgavdadaev.net (client.dgavdadaev.net [192.168.1.30])
        by server.dgavdadaev.net (Postfix) with ESMTPS id 9D11F20A3C63
        for <dgavdadaev@server.dgavdadaev.net>; Sun, 30 Nov 2025 10:36:39 +0000 (UTC)
Received: by client.dgavdadaev.net (Postfix, from userid 1001)
        id 937494130AC2; Sun, 30 Nov 2025 10:36:39 +0000 (UTC)
Date: Sun, 30 Nov 2025 10:36:39 +0000
To: dgavdadaev@server.dgavdadaev.net
Subject: test1
User-Agent: s-nail v14.9.24
Message-Id: <20251130103639.937494130AC2@client.dgavdadaev.net>
From: dgavdadaev@client.dgavdadaev.net


.
```

Рис. 9: Полученное письмо с клиента перед настройкой MX

Рис. 10: Очередь сообщений Postfix при ошибке доставки

```
Nov 30 10:37:38 server postfix/smtpd[14731]: connect from client.dgavdadaev.net[192.168.1.30]
Nov 30 10:37:38 server postfix/smtpd[14731]: 2219E20A3C63: client=client.dgavdadaev.net[192.168.1.30]
Nov 30 10:37:38 server postfix/cleanup[14735]: 2219E20A3C63: message-id=<20251130103738.202D54130AC2@client.dgavdadaev.net>
Nov 30 10:37:38 server postfix/qmgr[14641]: 2219E20A3C63: from=<dgavdadaev@client.dgavdadaev.net>, size=561, nrcpt=1 (queue active)
Nov 30 10:37:38 server postfix/smtpd[14731]: disconnect from client.dgavdadaev.net[192.168.1.30] ehlo=2 starttls=1 mail=1 rcpt=1 data=1 q
uit=1 commands=7
Nov 30 10:37:38 server postfix/smtp[14865]: warning: run-time library vs. compile-time header version mismatch: OpenSSL 3.5.0 may not be
compatible with OpenSSL 3.2.0
Nov 30 10:37:38 server postfix/smtp[14865]: 2219E20A3C63: to=<dgavdadaev@dgavdadaev.net>, relay=none, delay=0.01, delays=0/0.01/0/0, dsn=
5.4.6, status=bounced (mail for dgavdadaev.net loops back to myself)
Nov 30 10:37:38 server postfix/cleanup[14735]: 25AF9229D5C3: message-id=<20251130103738.25AF9229D5C3@server.dgavdadaev.net>
Nov 30 10:37:38 server postfix/qmgr[14641]: 25AF9229D5C3: from=<>, size=2589, nrcpt=1 (queue active)
Nov 30 10:37:38 server postfix/bounce[14866]: 2219E20A3C63: sender non-delivery notification: 25AF9229D5C3
Nov 30 10:37:38 server postfix/qmgr[14641]: 2219E20A3C63: removed
Nov 30 10:37:38 server postfix/smtp[14865]: connect to client.dgavdadaev.net[192.168.1.30]:25: No route to host
Nov 30 10:37:38 server postfix/smtp[14865]: 25AF9229D5C3: to=<dgavdadaev@client.dgavdadaev.net>, relay=none, delay=0, delays=0/0/0/0, dsn
=4.4.1, status=deferred (connect to client.dgavdadaev.net[192.168.1.30]:25: No route to host)
```

Рис. 11: Мониторинг maillog при ошибке доставки

```
                                            dgavdadaev.net
 Open    ▼    ⊞                              /var/named/master/fz

 1 $ORIGIN .
 2 $TTL 86400    ; 1 day
 3 dgavdadaev.net         IN SOA  dgavdadaev.net. server.dgavdadaev.net. (
 4                                 2025113007 ; serial
 5                                 86400      ; refresh (1 day)
 6                                 3600       ; retry (1 hour)
 7                                 604800     ; expire (1 week)
 8                                 10800      ; minimum (3 hours)
 9                                 )
10                        NS       dgavdadaev.net.
11                        A        192.168.1.1
12                        MX 10    mail.dgavdadaev.net.
13 $ORIGIN dgavdadaev.net.
14 $TTL 1200    ; 20 minutes
15 client                 A        192.168.1.30
16                        DHCID   ( AAEBsxPzpR1LCNUbs3GeP/UYQzT2aXUpiLLYhVp/Wd10
17                                 pAU= ) ; 1 1 32
18 $TTL 86400    ; 1 day
19 dhcp                   A        192.168.1.1
20 ns                     A        192.168.1.1
21 server                 A        192.168.1.1
22 www                    A        192.168.1.1
23 mail                   A        192.168.1.1
24
```

```
 1 $ORIGIN .
 2 $TTL 86400      ; 1 day
 3 1.168.192.in-addr.arpa  IN SOA  1.168.192.in-addr.arpa. server.dgavdadaev.net. (
 4                         2025113005 ; serial
 5                         86400      ; refresh (1 day)
 6                         3600       ; retry (1 hour)
 7                         604800     ; expire (1 week)
 8                         10800      ; minimum (3 hours)
 9                         )
10                 NS      1.168.192.in-addr.arpa.
11                 A       192.168.1.1
12                 PTR     server.dgavdadaev.net.
13                 MX 10   mail.dgavdadaev.net.
14 $ORIGIN 1.168.192.in-addr.arpa.
15 1               PTR     server.dgavdadaev.net.
16                 PTR     ns.dgavdadaev.net.
17                 PTR     dhcp.dgavdadaev.net.
18                 PTR     www.dgavdadaev.net.
19                 PTR     mail.dgavdadaev.net.
20 $TTL 1200       ; 20 minutes
21 30              PTR     client.dgavdadaev.net.
22                 DHCID   ( AAEBsxPzpR1LCNUbs3GeP/UYQzT2aXUpiLLYhVp/Wd10
23                         pAU= ) ; 1 1 32
```

```
Nov 30 10:43:01 server postfix/smtpd[15876]: connect from client.dgavdadaev.net[192.168.1.30]
Nov 30 10:43:01 server postfix/smtpd[15876]: 5A0C720BE081: client=client.dgavdadaev.net[192.168.1.30]
Nov 30 10:43:01 server postfix/cleanup[15880]: 5A0C720BE081: message-id=<20251130104301.583714130A7F@client.dgavdadaev.net>
Nov 30 10:43:01 server postfix/smtpd[15876]: disconnect from client.dgavdadaev.net[192.168.1.30] ehlo=2 starttls=1 mail=1 rcpt=1 data=1 q
uit=1 commands=7
Nov 30 10:43:01 server postfix/qmgr[15696]: 5A0C720BE081: from=<dgavdadaev@client.dgavdadaev.net>, size=561, nrcpt=1 (queue active)
Nov 30 10:43:01 server postfix/local[15881]: 5A0C720BE081: to=<dgavdadaev@dgavdadaev.net>, relay=local, delay=0, delays=0/0/0/0, dsn=2.0.
0, status=sent (delivered to mailbox)
Nov 30 10:43:01 server postfix/qmgr[15696]: 5A0C720BE081: removed
```

Рис. 14: Успешная доставка письма после настройки DNS и Postfix

```
From dgavdadaev@client.dgavdadaev.net  Sun Nov 30 10:43:01 2025
Return-Path: <dgavdadaev@client.dgavdadaev.net>
X-Original-To: dgavdadaev@dgavdadaev.net
Delivered-To: dgavdadaev@dgavdadaev.net
Received: from client.dgavdadaev.net (client.dgavdadaev.net [192.168.1.30])
        by server.dgavdadaev.net (Postfix) with ESMTPS id 5A0C720BE081
        for <dgavdadaev@dgavdadaev.net>; Sun, 30 Nov 2025 10:43:01 +0000 (UTC)
Received: by client.dgavdadaev.net (Postfix, from userid 1001)
        id 583714130A7F; Sun, 30 Nov 2025 10:43:01 +0000 (UTC)
Date: Sun, 30 Nov 2025 10:43:01 +0000
To: dgavdadaev@dgavdadaev.net
Subject: test2
User-Agent: s-nail v14.9.24
Message-Id: <20251130104301.583714130A7F@client.dgavdadaev.net>
From: dgavdadaev@client.dgavdadaev.net


.
```

Рис. 15: Полученное письмо test2 после настройки MX

Итоги

- Настроена почтовая система Postfix для локальной сети и доменной доставки
- Реализована отправка писем между клиентом и сервером
- Настроены MX и PTR-записи
- Проверена доставка писем и работа очереди Postfix
- Добавлена автоматизация конфигурации через Vagrant provisioning